

City of Tualatin, Oregon

water quality

Sparkling

Clean

Refreshing



2006

Results meet or surpass state and federal drinking water standards.



From Bull Run Reservoir ...

To Home ...



2006

water quality report

Providing the residents and businesses in the Tualatin water service area with a safe, dependable, high-quality water supply at a reasonable cost is a top priority. The City of Tualatin delivers water to more than 25,650 people every day and we think it is important for our customers to understand where their water comes from, how safe it is, and what actions we take to ensure its continuing high quality.

In accordance with federal guidelines, this report provides the information you need to know about the water you drink. Tualatin, along with all other water suppliers, is required by the Environmental Protection Agency (EPA) to send this information out each year to our water customers.

Where Our Water Comes From

The City of Tualatin supplies water to residents who live within the city limits. We do not own the water source. We buy our water from the City of Portland Bureau of Water Works.

Portland's Water Sources

The Bull Run Watershed is a surface water supply located in the Mt. Hood National Forest. A geological ridge separates the watershed from Mt. Hood. Current regulations allow Portland to meet federal drinking water standards without filtering this high-quality water supply. The watershed has an area of 102 square miles and typically receives 80-170 inches of rainfall each year. The heaviest rains occur from late fall through spring. Two reservoirs store water for use year-round, particularly during the dry summer months.

The watershed is reserved solely for producing drinking water. Federal laws restrict human entry. No recreational, residential, or industrial uses occur within its boundaries. The Portland Water Bureau carefully monitors water quality and quantity. The Oregon Department of Human Services - Drinking Water Program regularly inspects the watershed and related treatment and distribution facilities.

The Columbia South Shore Well Field

The well fields were used several times in 2006 to help with summer water demand and in the winter when we had high turbidity levels in our source water due to heavy winter rains up in the watershed.

The Columbia South Shore Well Field provides high-quality water from production wells located in four different aquifers. In 2006, the city supplemented the Bull Run supply with groundwater to augment the summer water supply for 78 days, beginning on August 14, providing more than 3.5 billion gallons of water during the summer to support Bull Run River fish recovery in the Sandy River Basin. For 14 days, beginning on November 7, the Portland Water Bureau delivered 1.1 billion gallons from the well field due to turbidity in Bull Run.

Drinking Water Treatment

The Water Bureau treats our water with chloramination. This process starts with chlorine to disinfect the water. Next, the city adds ammonia to ensure that disinfection remains adequate throughout the distribution system.

The city also adds sodium hydroxide to increase the pH of the water to reduce corrosion of plumbing systems. This treatment helps control lead and copper levels at customers' taps, should these metals be present in the customers' home plumbing.

Water Testing

The Portland Water Bureau, along with the City of Tualatin, monitors for approximately 200 regulated and unregulated contaminants in drinking water, including pesticides and radioactive contaminants.

All monitoring data in this report are from 2006 unless otherwise indicated. *If a health-related contaminant is not listed in this report, the Water Bureau did not detect it in Bull Run drinking water.*



our mission statement

"Provide safe water to our customers in a sufficient quantity and quality to meet their needs in a responsible and professional way."



EPA's View On Drinking Water Contaminants

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline at 800-426-4791 or at www.epa.gov/safewater/.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material and can pick up substances resulting from the presence of animals or from human activity.

Contaminants in Drinking Water Sources May Include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from wildlife or septic systems.
- **Inorganic contaminants**, such as salts and metals, which can occur naturally or result from urban stormwater runoff, industrial or domestic wastewater discharges, or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as farming, urban stormwater runoff, and home or business use.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes, and can also come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive contaminants**, which can occur naturally.

In order to ensure that tap water is safe to drink, the EPA has regulations that limit the amount of certain contaminants in water provided by public water systems and require monitoring for these contaminants. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Residential Backflow Prevention Device Test Due June 1st

Residential properties with any of the following items are required to have an approved backflow prevention device installed and tested by June 1 of each year: (1) in-ground irrigation system; (2) active well; (3) in-ground swimming pool/spa; (4) ornamental fountain; (5) fish pond; (6) solar heating system; or (7) residential fire sprinkler system. A passing test report must be submitted by you or your testing agency to the City of Tualatin Operations Department, Attn: E. Castro, 18880 SW Martinazzi Avenue, Tualatin, Oregon 97062.

We appreciate your ongoing cooperation regarding this program. By working together, we can be sure our drinking water remains safe to drink and free of contaminants. If your system is no longer in use and the backflow assembly has been disconnected, an inspection by the city is required. If you would like to schedule an appointment for an inspection or have any other questions, please contact Ernie Castro, Operations Department, at 503-691-3098.



Definitions

Maximum Contaminant Level Goal or MCLG - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.



Maximum Contaminant Level or MCL - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Residual Disinfectant Level Goal or MRDLG - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Maximum Residual Disinfectant Level or MRDL - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Part Per Million - One part per million corresponds to one penny in \$10,000 or approximately one minute in two years. One part per million is equal to 1000 parts per billion.

Part Per Billion - One part per billion corresponds to one penny in \$10,000,000 or approximately one minute in 2000 years.

Notes on Unregulated Contaminants

Unregulated contaminant monitoring helps the EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants in the future.

Results of Monitoring for Regulated Contaminants

SOURCE WATER - BULL RUN WATERSHED

Regulated Contaminant	Minimum Detected	Maximum Detected	Maximum Contaminant Level (MCL) or Treatment	Maximum Contaminant Level Goal (MCLG)	Source of Contaminant
Turbidity	0.19 NTU	4.35 NTU	5 NTU	Not Applicable	Erosion-nat. deposits
Giardia	Not detected	Two samples of 50 liters had 2 cysts	Treatment technique required: Disinfection to inactivate 99.9% of the cysts	Not Applicable	Animal wastes
Total Coliform Bacteria	Not detected	1 sample had 14 colonies. (100% had 100 or fewer bacterial colonies per 100 milliliters of water.)	At least 90% of samples (last 6 mos.) must have 100 or fewer bacterial colonies per 100 milliliters of water	Not Applicable	Through-out environment
Fecal Coliform Bacteria	Not detected	1 sample had 16 colonies. (100% had 20 or fewer bacterial colonies per 100 milliliters of water.)	At least 90% of samples (last 6 mos.) must have 20 or fewer bacterial colonies per 100 milliliters of water	Not Applicable	Animal wastes

ENTRY POINTS TO DISTRIBUTION SYSTEM

<u>NUTRIENTS</u>					Erosion-nat. deposits; animal wastes
Nitrate Nitrogen	<0.01 ppm	0.10 ppm	10 ppm	10 ppm	
<u>METALS</u>					Erosion of natural deposits in ground water aquifers
Arsenic	<1 ppb	3 ppb	10 ppb	0 ppb	
Barium	<0.002 ppm	<0.020 ppm	2 ppm	2 ppm	
Chromium	<1ppb	29 ppb	100 ppb	100 ppb	
<u>MINERALS</u>					
Flouride	<0.002 ppm	<0.020 ppm	2 ppm	2 ppm	
<u>ORGANIC CONTAMINANTS</u>					Chemical used to soften plastics. Factory discharge.
Di (2-ethylhexyl) phthalate	<1ppb	29 ppb	100 ppb	100 ppb	

Results of Monitoring for Unregulated Contaminants

ENTRY TO DISTRIBUTION SYSTEM - BULL RUN/GROUNDWATER WELL

Contaminant	Minimum Detected	Average Detected	Maximum Detected	Source of Contaminant
Nickel	<4 ppb	<4 ppb	5 ppb	Erosion of natural deposits in groundwater aquifers
Radon	131 picocuries per liter	204 picocuries per liter	277 picocuries per liter	Erosion of natural deposits in groundwater aquifers
Sodium	2.7 ppm	8.5 ppm	19 ppm	Added to water in treatment Erosion of natural deposits

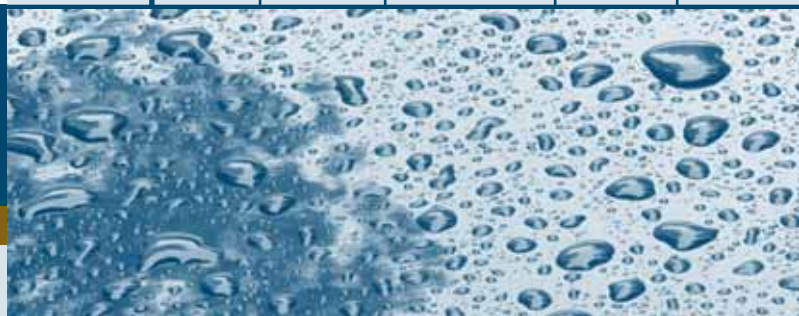
The Oregon Department of Human Services - Drinking Water Program allows water utilities to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some results, though representative, are more than one year old.

Notes on Regulated Contaminants

Turbidity - Bull Run is an unfiltered surface water supply. Rules for public water systems have strict standards for unfiltered surface water supplies.

Turbidity levels in unfiltered water must not exceed 5 NTU

(Nephelometric Turbidity Units). The typical cause of turbidity is tiny particles of sediment in the water during storm events. During large storm events, the Water Bureau may shut down the Bull Run system and serve water from the Columbia South Shore Well Field. Turbidity can interfere with disinfection and provide a medium for microbial growth.



Frequently Asked Questions

Is my water treated by filtration?

No, Bull Run is currently not filtered. The Bull Run source meets the filtration avoidance criteria of the Surface Water Treatment Rule. The state approved Portland's compliance with these criteria in 1992.

Is there fluoride added to our drinking water?

Portland does not add fluoride to the water. No fluoride is detected in Bull Run water, but it is a naturally-occurring trace element in groundwater. The US Public Health Service and the Centers for Disease Control and Prevention (CDC) consider the fluoride levels in Portland's water sources to be lower than optimal for helping to prevent dental decay. You may want to consult with your dentist about fluoride treatment to help prevent tooth decay, especially for young children.

Is Bull Run water soft or hard?

Portland's water is very soft. Hardness of Bull Run water is typically 6-11 parts per million (approximately half of a grain of hardness per gallon). Portland's groundwater hardness is approximately 86 parts per million (about 5 grains per gallon), which is considered moderately hard.

What is the pH of Bull Run water?

In the distribution system, pH typically ranges from 7.2 to 8.2.

Are sodium levels in Portland's drinking water going to affect my health?

There is currently no drinking water standard for sodium. Sodium is an essential nutrient. At the levels found in drinking water, it is unlikely to significantly contribute to adverse health effects.

How Can I Get My Water Tested?

Call the LeadLine at 503-988-4000 for information about free lead in water testing. For more extensive testing, private laboratories can test your tap water for a fee. Not all labs are accredited to test for all contaminants. For information about accredited labs, call the Oregon Department of Human Services, Oregon Environmental Laboratory Accreditation Program at 503-229-5505 or visit www.oregon.gov/DHS/ph/orelap.

Tualatin wants to reduce exposure to lead in drinking water.

Lead exposure is a world-wide health problem. Household dust, soil, paint, pigments, solder, ammunition, plumbing, cable coverings, caulk, bearings, pottery, and folk medicine remedies or cosmetics may contain lead. People are exposed to lead in many ways.

Exposure to lead through drinking water is possible if materials in a building's plumbing contain lead. The level of lead in water can increase when water "stands" in contact with lead-based solder and brass faucets containing lead.

Tualatin's source water contains no detectable lead. Our water supplies consistently meet or surpass all federal and state drinking water standards.



Water systems regularly monitor for lead at the tap. The Oregon Department of Human Services requires water systems to monitor regularly for lead in targeted homes with high risk factors for lead. Some households in our community have lead levels in standing water that exceed the US Environmental Protection Agency's "action level," usually because of plumbing installed in buildings years ago. We want all our customers to have the important public health information in this brochure.

For more information:

Leadline, 503-988-4000

US EPA, Safe Drinking Water Hotline, 800-426-4791
www.epa.gov/safewater

National Lead Information Line, 800-532-3394 (or 800-LEADFYI)

NSF International, for information on "lead-free" faucets, 800-673-6275 (or 800-NSF-MARK), www.nsf.org

Water treatment and water quality monitoring

The Oregon Department of Human Services has set water treatment targets for the City of Tualatin. These targets reduce corrosion in plumbing through adjusting the pH of the water. We have measured at least a 50 percent reduction in lead at the tap with pH adjustment.

Home Lead Hazard Reduction Program

This program focuses on all sources of lead in the home environment, including lead dust in and around older homes once painted with lead-based paint. It includes lead-risk evaluations, blood-lead level testing for children, and educational materials about lead safety. It provides services to control or reduce lead hazards.

Results of Monitoring for Regulated Contaminants

TUALATIN DISTRIBUTION SYSTEM - RESERVOIRS/TANKS/MAINS

Regulated Contaminant	Minimum Detected	Maximum Detected	Maximum Contaminant Level (MCL) or Treatment Technique	Maximum Contaminant Level Goal (MCLG)	Source of Contaminant
Total Chlorine Residual	0.29 ppm	1.83 ppm	4 ppm	4 ppm	Chlorine and ammonia used to disinfect water
Asbestos Fiber* Tested in 2000	Not applicable	0.17 million fibers per liter	7 million fibers per liter >10um	zero	Asbestos cement/erosion natural deposits

DISINFECTION BYPRODUCTS TUALATIN SYSTEM

Total Trihalomethanes Annual average/all sites	19 ppb	29 ppb	80 ppb	Not applicable	Byproduct of drinking water disinfection
Single result any one site	16 ppb	29 ppb	Not applicable	Not applicable	
Haloacetic Acids Annual average /all sites	20 ppb	34 ppb	60 ppb	Not applicable	Byproduct of drinking water disinfection
Single result any one site	14 ppb	35 ppb	Not applicable	Not applicable	

Lead and Copper Sampling at Residential Taps

90th Percentile Values	Sites Exceeding Action Levels	Action Level (AL)*	Maximum Contaminant Level Goal (MCLG)	Source of Contaminant
COPPER 50 ppm	No samples exceeded	Exceeds AL if more than 10 % of homes have levels greater than 1.3 ppm	1.3 ppm	Corrosion of building plumbing systems
LEAD 17 ppb	17 of 116 samples exceeded Action Level of 15 ppb	Exceeds AL if more than 10 % of homes have levels greater than 15 ppb	zero	Corrosion of building plumbing systems

*Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

If You Have Any Questions...

about this report, please contact Mick Wilson at 503-691-3095. You may also wish to visit the city's website at www.ci.tualatin.or.us or call the Oregon Department of Human Services Drinking Water Program at 503-731-4317 or visit their website at www.ohd.hr.state.or.us/dwp/index.cfm.



Community Education and Outreach

The City of Tualatin, along with the Portland Water Bureau, works with community, public health, environmental, business, and media organizations

and agencies to develop educational activities and materials about lead hazards.

The public is invited to attend any of the regularly scheduled Tualatin City Council meetings held on the second and fourth Monday at 7 pm every month. Call 503-692-2000 for meeting locations.

Testing Your Water for Lead

The following is a list of some state-approved laboratories in the Portland area that you can call to have your water tested for lead. These labs charge a fee.

Alexin Analytical Laboratories	503-639-9311
Coffey Laboratories	503-254-1794
TestAmerica Portland	503-906-9200

Message from the EPA

The United States Environmental Protection Agency (EPA) and the City of Tualatin are concerned about lead in your drinking water. Although most homes have very low levels of lead in their drinking water, some homes in the community have lead levels above the EPA action level of 15 parts per billion (ppb), or 0.015 milligrams of lead per liter of water (mg/L). Under federal law, we were required to have a program in place to minimize lead in your drinking water by January 1, 1997. This program includes corrosion control treatment, source water treatment, and public education. If you have any questions about how we are carrying out the requirements of the lead regulation, please give us a call at 503-691-3091. This brochure explains the simple steps you can take to protect you and your family by reducing your exposure to lead in drinking water.

Health Effects of Lead

Lead is a common metal found throughout the environment in lead-based paint, air, soil, household dust, food, certain types of pottery, porcelain and pewter, and water. Lead can pose a significant risk to your health if too much of it enters your body. Lead builds up in the body over many years and can cause damage to the brain, red blood cells, and kidneys. The greatest risk is to young children and pregnant women. Amounts of lead that won't hurt adults can slow down normal mental and physical development of growing bodies. In addition, a child at play often comes into contact with sources of lead contamination — like dirt and dust — that rarely affect an adult. It is important to wash children's hands and toys often and to try to make sure they only put food in their mouths.

Lead in Drinking Water

- Lead in drinking water, although rarely the sole cause of lead poisoning, can significantly increase a person's total lead exposure, particularly the exposure of infants who drink baby formulas and concentrated juices that are mixed with water. The EPA estimates that drinking water can make up 20 percent or more of a person's total exposure to lead.
- Lead is unusual among drinking water contaminants in that it seldom occurs naturally in water supplies like rivers and lakes. Lead enters drinking water primarily as a result of the corrosion, or wearing away, of materials containing lead in household plumbing. These materials include lead-based solder used to join copper pipe and brass and chrome-plated brass faucets. In 1985, Congress banned the use of lead solder containing greater than 0.2% lead and restricted the lead content of faucets, pipes, and other plumbing materials to 8.0%.
- When water stands in lead pipes or plumbing systems containing lead for several hours or more, the lead may dissolve into your drinking water. This means the first water drawn from the tap in the morning, or later in the afternoon after returning from work or school, can contain fairly high levels of lead.

Steps You Can Take in the Home To Reduce Exposure to Lead in Drinking Water

Despite our best efforts mentioned earlier to control water corrosivity and remove lead from the water supply, lead levels in some homes or buildings can be high. To find out whether you need to take action in your own home, have your drinking water tested to determine if it contains excessive concentrations of lead. Testing the water is essential because you cannot see, taste, or smell lead in drinking water. Some local laboratories that can provide this service are listed. For more information on having your water tested, please call the City of Tualatin at 503-691-3091.

If a water test indicates that the drinking water drawn from a tap in your home contains lead above 15 ppb, then you should take the following precautions:

- Let the water run from the tap before using it for drinking or cooking any time the water in a faucet has gone unused for more than six hours. The longer water resides in your home's plumbing, the more lead it may contain. Flushing the tap means running the cold water faucet until the water gets noticeably colder, usually about 15-30 seconds. Although toilet flushing or showering flushes water through a portion of your home's plumbing system, you still need to flush the water in each faucet before using it for

drinking or cooking. Flushing tap water is a simple and inexpensive measure you can take to protect your family's health. It usually uses less than one or two gallons of water and costs less than 17¢ for water per month. To conserve water, fill a couple of bottles for drinking water after flushing the tap and, whenever possible, use the first flush water to wash the dishes or water the plants. If you live in a high-rise building, letting the water flow before using it may not work to lessen your risk from lead. These plumbing systems have more, and sometimes larger, pipes than smaller buildings. Ask your landlord for help in locating the source of the lead and ask your landlord and the Portland Water Bureau for advice on reducing the lead level.

- Try not to cook with or drink water from the hot water tap. Hot water can dissolve more lead more quickly than cold water. If you need hot water, draw water from the cold tap and heat it on the stove.

- Remove loose lead solder and debris from the plumbing materials installed in newly-constructed homes, or homes in which the plumbing has recently been replaced, by removing the faucet strainers from all taps and running the water from 3 to 5 minutes. Thereafter, periodically remove the strainers and flush out any debris that has accumulated over time.

- If your copper pipes are joined with lead solder that has been installed illegally since it was banned June 30, 1985, notify the plumber who did the work and request that he or she replace the lead solder with lead-free solder. Lead solder looks dull gray and, when scratched with a key, looks shiny. In addition, notify the Oregon Health Division about the violation.

- Have an electrician check your wiring. If grounding wires from the electrical system are attached to your pipes, corrosion may be increased. Check with a licensed electrician or your local electrical code to determine if your wiring can be grounded elsewhere. DO NOT attempt to change the wiring yourself because improper grounding can cause electrical shock and fire hazards.

The steps described above will reduce the lead concentrations in your drinking water. However, if a water test indicates that the drinking water coming from your tap contains lead concentrations in excess of 15 ppb after flushing or after you have completed actions to minimize lead levels, then you may want to take the following additional measures:

- Purchase or lease a home treatment device. Home treatment devices are limited in that each unit treats only the water that flows from the faucet to which it is connected, and all of the devices require periodic maintenance and replacement. Devices such as reverse osmosis systems or distillers can effectively remove lead from your drinking water. Some activated carbon filters may reduce lead levels at the tap; however, all lead reduction claims should be investigated. Be sure to check the actual performance of a specific home treatment device before and after installing the unit and to strictly maintain and replace the unit according to the manufacturer's directions.

- Purchase bottled water for drinking and cooking.

- You can consult a variety of sources for additional information. Your family doctor or pediatrician can perform a blood test for lead and provide you with information about the health effects of lead. State and local government agencies that can be contacted include:

a) The City of Tualatin Operations Department can provide you with information about your community's water supply. For more information, call 503-691-3091.

b) Either the City of Tualatin Building Department (permits issued 7/84 to present) at 503-691-3044 or Washington County Building Services (permits prior to 7/84) at 503-640-3470 can provide you with information about building permit records that should contain the names of plumbing contractors that plumbed your home.

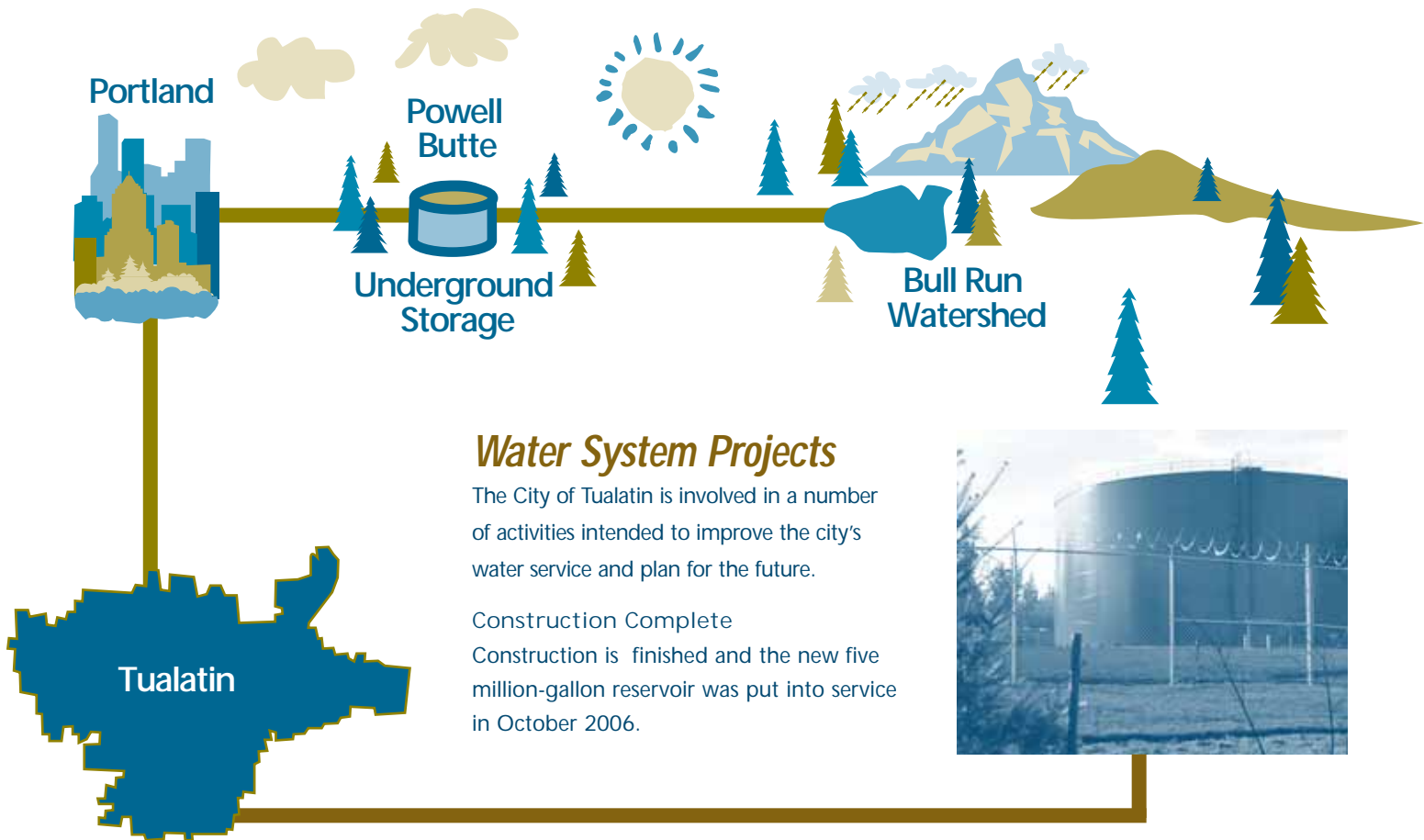
c) The Oregon Health Division 503-731-4317 or the Washington County Health Department at 503-648-8609 can provide you with information about the health effects of lead and how you can have your child's blood tested.

Easy steps to avoid possible exposure to lead from plumbing.

1. Never use water from the hot water tap for making baby formula.
2. Use only cold, fresh water from the cold water tap for drinking or cooking.
3. Avoid using water that has been standing in the pipes. When a faucet is not used for more than six hours, run the cold water tap until the water feels noticeably colder (about 15 to 30 seconds). This flushes standing water out of the pipes, replacing it with fresh water.
4. Use only lead-free solder when making plumbing repairs.
5. Consider using a filter. Check whether it removes lead – not all filters do. Be sure to maintain and replace a filter in accordance with the manufacturer's instructions to protect water quality.
6. Look for faucets and filters which are NSF-certified to limit contaminants to acceptable drinking water levels. For more information, contact NSF International at 877-867-3435 or at www.nsf.org.



City of Tualatin, Oregon
503-692-2000



Water System Projects

The City of Tualatin is involved in a number of activities intended to improve the city's water service and plan for the future.

Construction Complete
Construction is finished and the new five million-gallon reservoir was put into service in October 2006.



www.ci.tualatin.or.us



City of Tualatin, Oregon

Operations Department

18880 SW Martinazzi Avenue
Tualatin, OR 97062

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POSTAL CUSTOMER

Public Water System #4100906

Your Drinking Water 2006

Este documento contiene información importante y la persona que lo reciba debe pedir que alguien se lo traduzca.